



Duke Kunshan University 14 Year Commitment to Ecology
Landscape Design at Duke Kunshan

Project Statement

Duke Kunshan University, a joint endeavor between Duke University and Wuhan University, is situated on a 200-acre site in Kunshan, 40 miles from Shanghai. 14 years ago, rapid urbanization caused Kunshan to face significant challenges with urban flooding and water quality degradation. This development accentuates the unprecedented importance of adept stormwater management. DKU’s landscape design team is entrusted with the imperative to mitigate the ramifications of intense rainfall and urban flooding phenomena within the region. They embraced an ecology-first strategy, pioneering water system design in the region to enhance the campus atmosphere and create a sustainable, serene educational environment.

Project Narrative & Contents

Strategy Design

The spatial design of Duke Kunshan University dynamically interacts with the seasonal fluctuations of water levels, transforming the lake’s surrounding areas and the bridge at its heart into versatile waterfront platforms. These platforms seamlessly transition between squares, outdoor theatres, classrooms, open-air tea rooms, and water channels, catering to various functions like celebrations, viewing, learning, reading, and relaxation. The terrace is meticulously crafted to adapt to the region’s water level variability, permitting select communal spaces to be submerged during February, July, and August, and to reemerge in times of diminished rainfall. This period presents the campus with a serene atmosphere that reflects the typical water town layout of Kunshan. During academic periods, lower water levels due to reduced natural water supply increase space for outdoor interactions, perfectly accommodating the heightened demand for campus outdoor activities.

The Combination between Practice and Education

The phase I of campus emphasizes water as a key cultural element, harvesting it from roofs and landscapes while filtering pollutants from driveways. While phase II aims to collect all water and purify them through the 16-acre duke garden lake and wetland. Duke Kunshan University incorporate the campus’s water cycle design directly into their lessons, offering students a tangible understanding of sustainable practices. The landscape design of the campus has been integrated into the curriculum of the environmental studies program, further embedding ecological principles into the educational experience. Water has become a focal point, achieving the original goal of using water as a narrative to showcase ecological education and promote respect for the environment.

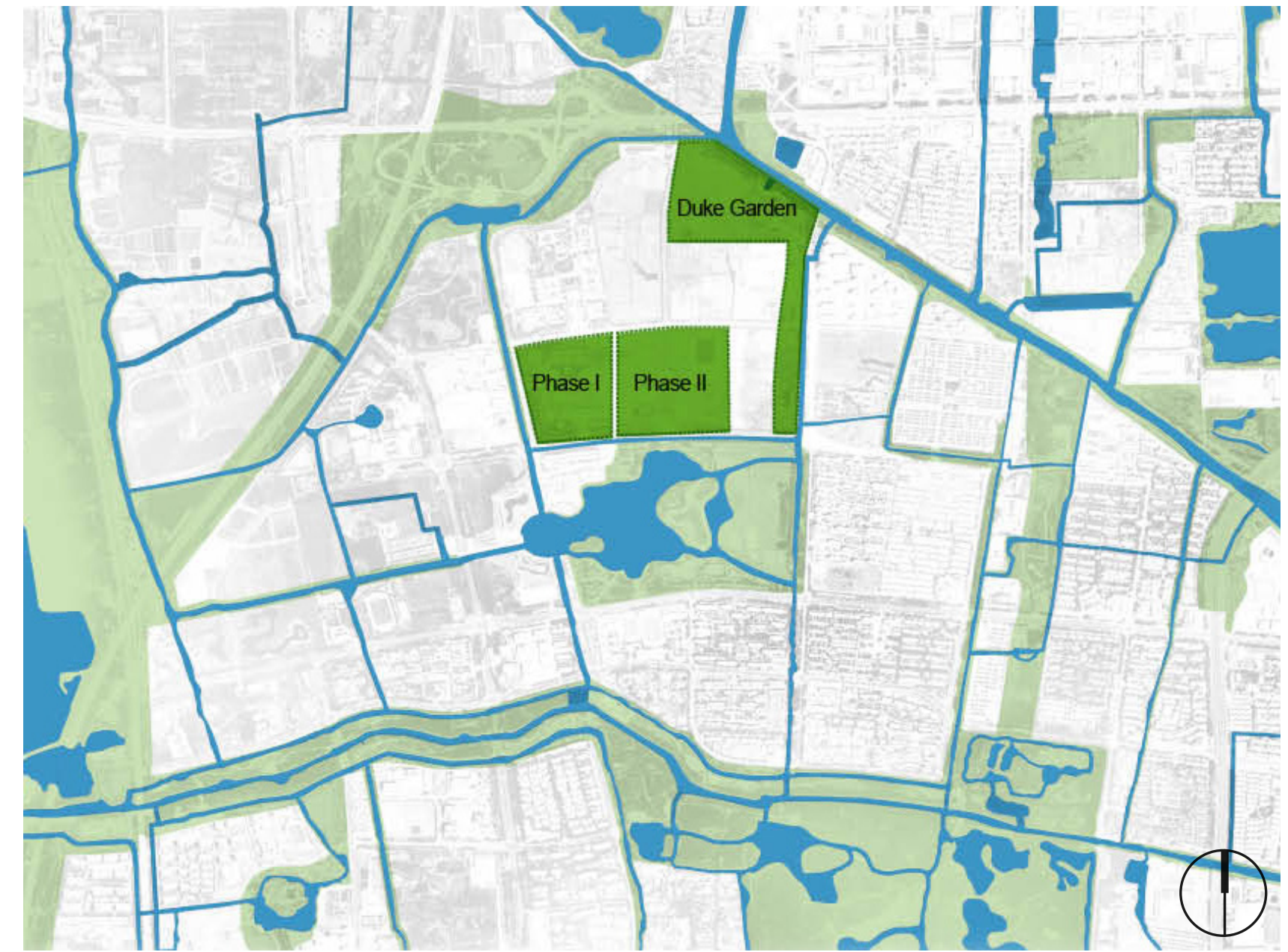
Economics and Sustainability

Economically, although the underground filtration system for water purification added an initial cost of 3 million yuan, the completed rainwater harvesting and green space irrigation systems have resulted in annual savings of 350,000 yuan. This means the additional investment can be recouped within eight years, demonstrating the project’s sustainability. Moreover, the implementation of sponge city concepts has alleviated the burden on surrounding infrastructure and investment, improving the area’s environmental quality and increasing the value of nearby land developments.

Social Significance

The foresight of this approach has proven to be a sustainable blueprint for education, demonstrating Duke Kunshan University’s commitment to integrating ecological stewardship with academic excellence in response to climate challenges. The success of the campus has generated positive feedback from the community towards the Sponge City model and has spurred the design and construction of other Sponge City projects in Kunshan.

Masterplan



In **2010**, Duke University in partnership with Wuhan University, initiated Duke Kunshan University.

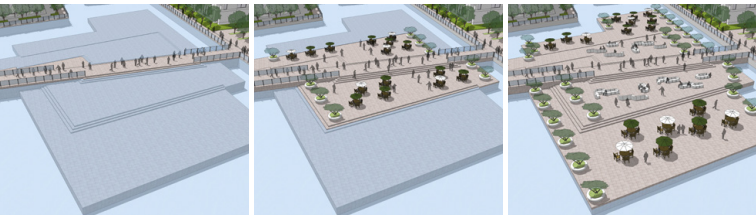
This initiative has resulted in a campus renowned for its sustainable development, integrating the traditional culture of water towns with modern technologies to address **flooding challenges** of the region.

This campus becomes the **first** Chinese university campus to be certified by the **LEED** campus program. Duke Garden is the first to receive **SITES** Platinum precertification.

14 Year Commitment



The **phase I** of campus construction was launched in **September 2010**.



In **March 2011**, DKU approved the innovative water-based design scheme, which draws on the region's water-town culture to provide **sustainable stormwater solutions**.



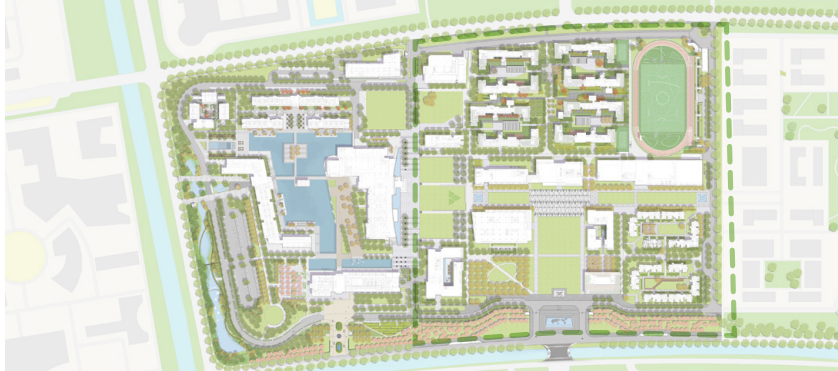
In **January 2010**, Duke University signed the agreement with Kunshan to establish Duke Kunshan University (DKU).



Campus **officially opened** for its inaugural programs



DKU: the first Chinese university campus to be certified by the **LEED campus program**



DKU **Phase II** landscape design started in **April 2018**



The 71-acre **Duke Garden** concept design started in **August 2018**.



Duke Garden was **SITES precertified Platinum** in June 2020.



DKU **Phase II** construction starts in August 2019, completed in **2022 May**.



Official opening ceremony was held for DKU **phase II** in **August 2023**.

2014

2016

2018

2018

2020

2021

2022

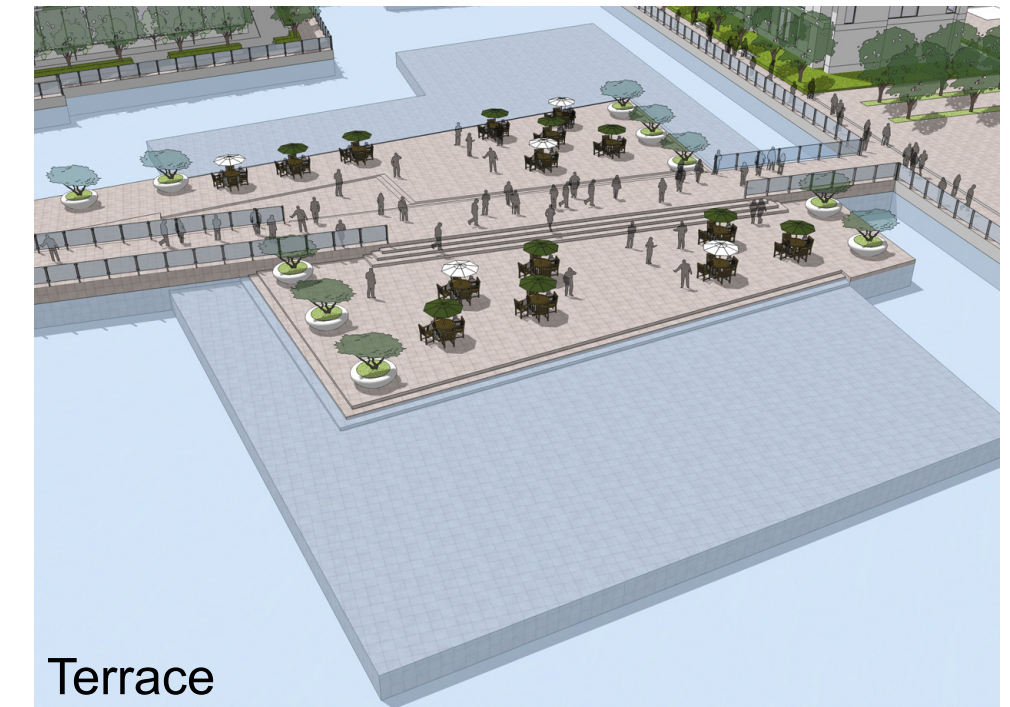
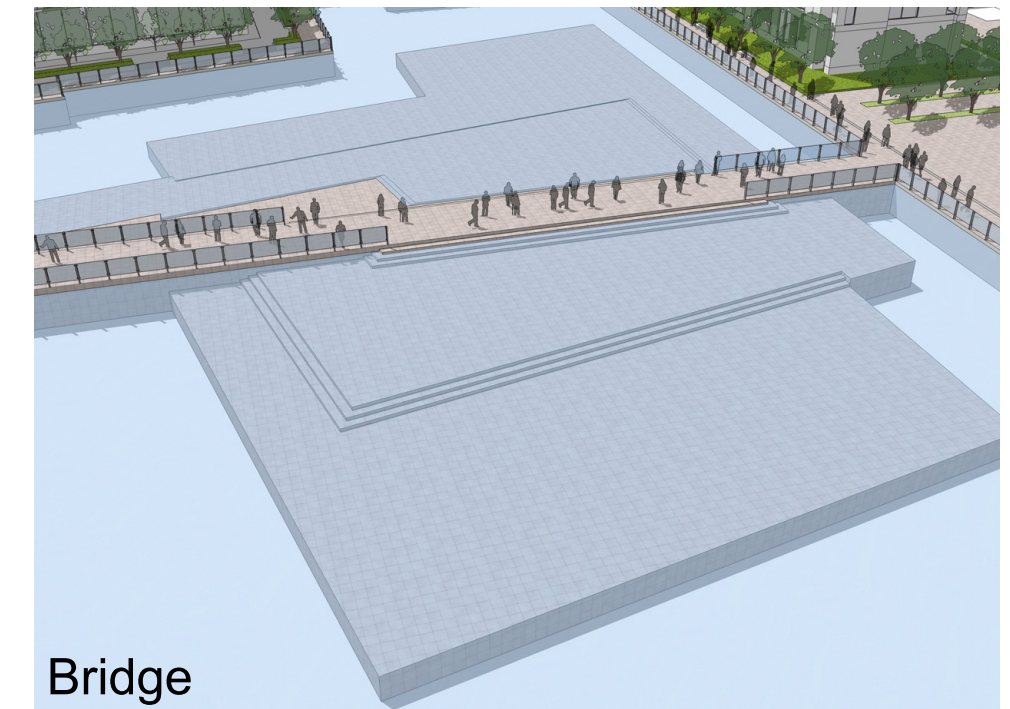
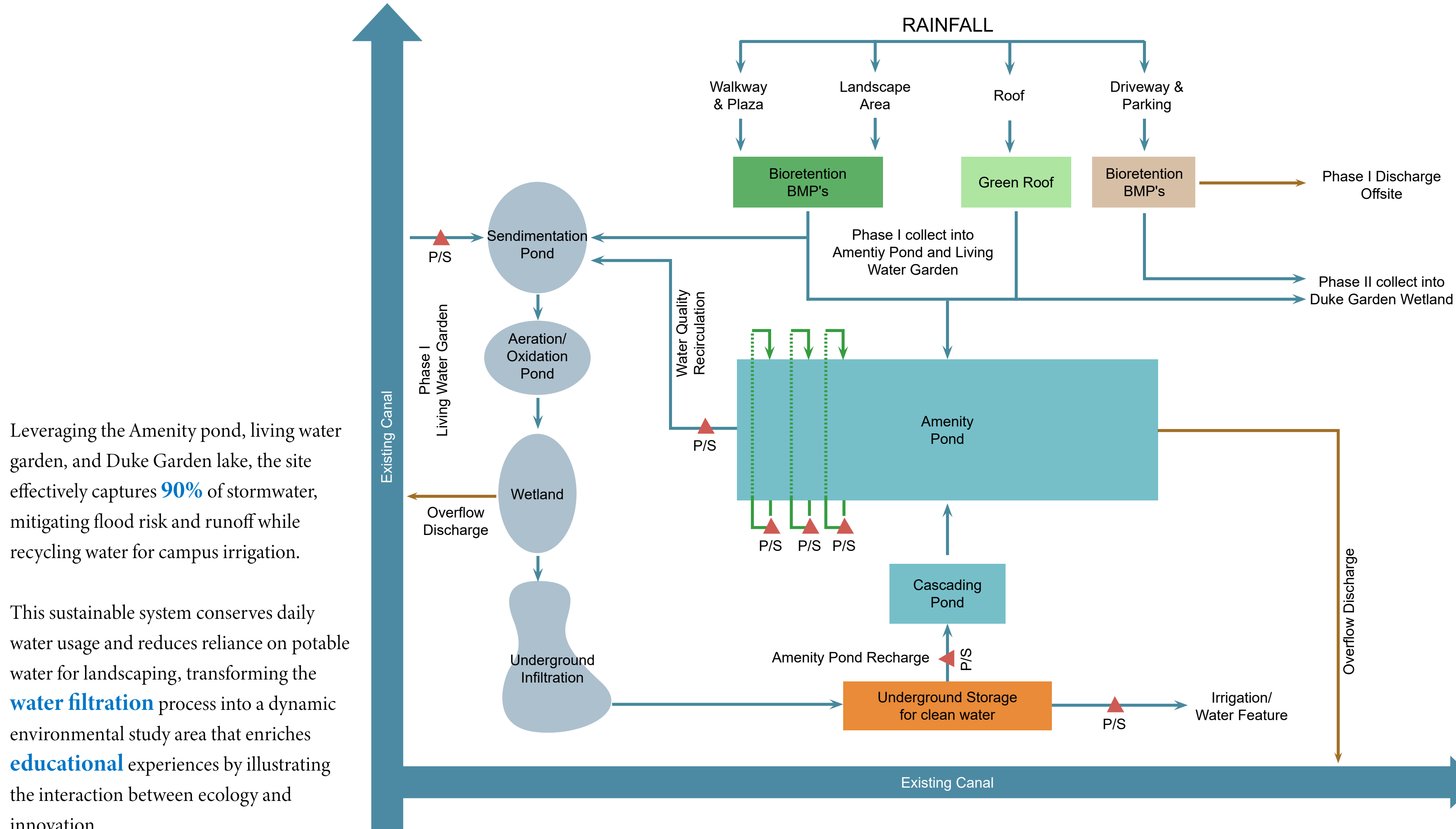
2023

2011

2010



The underground filtration system



Site Change



